



[4910-13-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2014-0342; Directorate Identifier 2014-NM-007-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 747-400, 747-400D, 747-400F, 747-8F, and 747-8 series airplanes. This proposed AD was prompted by reports of very high temperatures, up to 67 degrees Celsius (152 degrees Fahrenheit), near the floor in the aft lower lobe cargo compartment. This proposed AD would require installing an additional zone temperature sensor (ZTS) in the aft cargo compartment. For certain airplanes, the proposed AD would first require installing tape and replacing the markers in the bulk cargo compartment, unless terminated by the early installation of the ZTS. We are proposing this AD to prevent overheating of the aft lower lobe cargo compartment, where, if temperature sensitive cargo is present, the release of flammable vapors could result in a fire or explosion if exposed to an ignition source.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0342; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Susan Monroe, Aerospace Engineer, Cabin Safety and Environmental Systems Branch, ANM-150S, FAA, 1601 Lind Avenue SW., Renton, WA; phone: 425-917-6457; fax: 425-917-6590; email: [susan.l.monroe@faa.gov](mailto:susan.l.monroe@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2014-0342; Directorate Identifier 2014-NM-007-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

### **Discussion**

We received reports of very high temperatures—up to 67 degrees Celsius (152 degrees Fahrenheit)—near the floor in the aft lower lobe cargo compartment. The operator noted that loose cargo blocked the cover plate for the bulk cargo ZTS. The aft cargo heat system is controlled by three temperature switches (two control switches and one overheat switch) located in the bulk cargo ZTS assembly. When the air inlet to this assembly becomes blocked by loaded or shifted cargo, the temperature switches fail to receive an adequate sample of compartment air. Under these conditions, the switches will not command the system valves properly, and the switches may fail to shut off the flow of hot air to the lower lobe cargo compartment, causing compartment temperatures to rise beyond 60 degrees Celsius (140 degrees Fahrenheit). This condition, if not corrected, could result in overheating of the aft lower lobe cargo compartment, where, if

temperature sensitive cargo is present, the release of flammable vapors could result in a fire or explosion if exposed to an ignition source.

#### **Relevant Service Information**

We reviewed Boeing Special Attention Service Bulletins 747-21-2544, Revision 1, dated September 30, 2013, and 747-21-2550, dated December 6, 2013. For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for Docket No. FAA-2014-0342.

#### **FAA's Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

#### **Proposed AD Requirements**

This proposed AD would require accomplishing the actions specified in the service information identified previously, except as discussed under "Differences Between this Proposed AD and the Service Information."

#### **Differences Between this Proposed AD and the Service Information**

Although Boeing Special Attention Service Bulletin 747-21-2550, dated December 6, 2013, specifies Boeing Service Bulletin 747-21-2367 as a concurrent service bulletin for certain airplanes, this proposed AD would not include that requirement. This difference has been coordinated with Boeing.

Certain airplane variable numbers are not identified in Boeing Special Attention Service Bulletins 747-21-2544, Revision 1, dated September 30, 2013, and 747-21-2550, dated December 6, 2013. These variable numbers are affected by the identified unsafe condition, therefore, this proposed AD would require that the actions specified in paragraphs (g) and (h) of this AD, as applicable, be completed on these variable numbers. This difference has been coordinated with Boeing.

## Costs of Compliance

We estimate that this proposed AD affects 130 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

### Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Install zone temperature sensor	91 work-hours X \$85 per hour = \$7,735	\$7,545	\$15,280	\$1,986,400

We estimate the following costs to do the optional actions specified in this proposed AD.

### Optional costs

Action	Labor cost	Parts cost	Cost per product
Install tape and markers	1 work-hour X \$85 per hour = \$85	\$33	\$118

## Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**The Boeing Company:** Docket No. FAA-2014-0342; Directorate Identifier 2014-NM-007-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to The Boeing Company Model 747-400, 747-400D, 747-400F, 747-8F, and 747-8 series airplanes; certificated in any category; as identified in paragraphs (c)(1) and (c)(2) of this AD.

(1) Airplanes identified in Boeing Special Attention Service Bulletin 747-21-2550, dated December 6, 2013.

(2) Airplanes identified in paragraph (h)(2) of this AD.

**(d) Subject**

Air Transport Association (ATA) of America Code 21, Air conditioning.

**(e) Unsafe Condition**

This AD was prompted by reports of very high temperatures, up to 67 degrees Celsius (152 degrees Fahrenheit), near the floor in the aft lower lobe cargo compartment. We are issuing this AD to prevent overheating of the aft lower lobe cargo compartment, where, if temperature sensitive cargo is present, the release of flammable vapors could result in a fire or explosion if exposed to an ignition source.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Installation for Certain Airplanes (Interim Action)**

Within 12 months after the effective date of this AD, remove the existing markers and install tape and new markers in the bulk cargo compartment, as specified in paragraph (g)(1) or (g)(2) of this AD, as applicable. Accomplishing the actions specified

in paragraph (h) of this AD within 12 months after the effective date of this AD terminates the requirements of this paragraph.

(1) For airplanes identified in paragraphs (g)(1)(i), (g)(1)(ii), and (g)(1)(iii) of this AD, do the actions in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747-21-2544, Revision 1, dated September 30, 2013.

(i) Airplanes identified in Boeing Special Attention Service Bulletin 747-21-2544, Revision 1, dated September 30, 2013.

(ii) For airplanes having variable numbers RC508 through RC509; RC520 through RC522; RC524 through RC525; RC547; RC 553 through RC554; RC571 through RC572; RC581 through RC582; and RC604: Do the applicable actions for Model 747-8F airplanes identified as Group 1 in Boeing Special Attention Service Bulletin 747-21-2544, Revision 1, dated September 30, 2013.

(iii) For airplanes having variable numbers RC026 through RC030: Do the applicable actions for Model 747-8 airplanes identified as Group 2 in Boeing Special Attention Service Bulletin 747-21-2544, Revision 1, dated September 30, 2013.

(2) For airplanes having variable numbers identified in paragraphs (g)(2)(i) and (g)(2)(ii) of this AD, do the actions using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

(i) Model 747-8F airplanes, variable numbers RC501, RC507, and RC580.

(ii) Model 747-8 airplanes, variable numbers RC001, RC007, and RC008.

**(h) Installation for All Airplanes (Terminating Action)**

Within 60 months after the effective date of this AD, install an additional zone temperature sensor in the aft cargo compartment, as specified in paragraph (h)(1) or (h)(2) of this AD, as applicable. Doing this action within 12 months after the effective date of this AD terminates the requirements of paragraph (g) of this AD.

(1) For airplanes identified in Boeing Special Attention Service Bulletin 747-21-2550, dated December 6, 2013: Do the actions in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747-21-2550, dated December 6, 2013.

(2) For airplanes having variable numbers RC021 and RC573: Do the actions using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

**(i) Credit for Previous Actions**

This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Boeing Special Attention Service Bulletin 747-21-2544, dated January 15, 2013.

**(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (k)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must

meet the certification basis of the airplane, and the approval must specifically refer to this AD.

**(k) Related Information**

(1) For more information about this AD, contact Susan Monroe, Aerospace Engineer, Cabin Safety and Environmental Systems Branch, ANM-150S, FAA, 1601 Lind Avenue SW., Renton, WA; phone: 425-917-6457; fax: 425-917-6590; email: [susan.l.monroe@faa.gov](mailto:susan.l.monroe@faa.gov).

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on June 17, 2014.

Michael Kaszycki,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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